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**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA**

MICRON TECHNOLOGY, INC.,

Case No. 3:17-CV-6932-MMC

Plaintiff,

DECLARATION OF MARIO MOORE IN
SUPPORT OF UNITED
MICROELECTRONICS AND FUJIAN
JINHUA INTEGRATED CIRCUIT CO.,
LTD.'S JOINT MOTION TO STAY CIVIL
ACTION PENDING RESOLUTION OF
CRIMINAL PROCEEDINGS

V

UNITED MICROELECTRONICS
CORPORATION, FUJIAN JINHUA
INTEGRATED CIRCUIT CO., LTD.,
and DOES 1-10

Defendants

Judge: Hon. Maxine M. Chesney
Courtroom: 7 – 19th Floor
Hearing date: June 21, 2019
Hearing time: 9:00 a.m.

FAC Filed: February 8, 2019

1 I, Mario Moore, hereby declare as follows:

2 1. I am an attorney licensed to practice law in the State of California, and I am
3 admitted to practice before this Court. I am a partner at Dan Johnson Law Group, LLP, and I am
4 one of the attorneys representing United Microelectronics Corporation (UMC) in the above-
5 captioned matter. I submit this declaration in support of UMC and Fujian Jinhua Integrated Circuit
6 Co., Ltd.'s (Jinhua) Motion to Stay Civil Action Pending Resolution of Criminal Proceedings. I
7 make this declaration on personal knowledge, and if called as a witness, I could and would
8 competently testify with respect to the matters stated herein.

9 2. Attached hereto as Exhibit 1 is a true and correct copy of the Indictment, filed in
10 *United States of America v. United Microelectronics Corporation, et al.*, Case No. CR-18-00465
11 (N.D. Cal.), dated September 27, 2018.

12 3. Attached hereto as Exhibit 2 is a true and correct copy of the United States'
13 Complaint for Injunctive Relief, filed in *United States of America v. United Microelectronics*
14 *Corporation, et al.*, Case No. CV-18-06643 (N.D. Cal.), dated November 1, 2018.

16 I declare under penalty of perjury under the laws of the United States of America that the
17 foregoing is true and correct to the best of my knowledge and belief.

18 || Executed this 23rd day of May 2019, in Irvine, California.

20 | Dated: May 23, 2019

DAN JOHNSON LAWGROUP

/s/ Mario Moore
Mario Moore (Bar No. 231644)

Ex. 1

United States District Court

FOR THE
NORTHERN DISTRICT OF CALIFORNIA

VENUE: SAN JOSE

SEP 27 2013
SUSAN Y. SOONG
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE

UNITED STATES OF AMERICA,

v.

CR 18 465

UNITED MICROELECTRONICS
CORPORATION, et al.,

LHK

SVK

DEFENDANT(S).

INDICTMENT

VIOLATIONS:

Title 18, United States Code, Section 1831(a)(5) – Conspiracy to Commit Economic Espionage;
Title 18, United States Code, Section 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets;
Title 18, United States Code, Section 1831(a)(1) – Economic Espionage (Theft of Trade Secrets);
Title 18, United States Code, Section 1831(a)(2) – Economic Espionage (Copying and Conveying of Stolen Trade
Secrets); Title 18, United States Code, Section 1831(a)(3) and (2) – Economic Espionage (Receipt and Possession
of Stolen Trade Secrets); Title 18 United States Code, Section 1832(a)(1) – Theft of Trade Secrets;
Title 18, United States Code, Section 2323 – Criminal Forfeiture

A true bill

Linda Day

Foreman

Filed in open court this 27th day of

Sept, 2018

ROSE MAHER

Thomas S. Nixon

DJ

Clerk

Bail, \$

NO PROCESS

DOCUMENT NO.	Case's INITIALS
<i>J</i>	
DISTRICT COURT CRIMINAL CASE PROCESSING	

1 ALEX G. TSE (CABN 152348)
2 United States Attorney
3

UNDER SEAL

FILED

5 SEP 27 2018 *[Signature]*

6 SUSAN Y. SOONG
7 CLERK, U.S. DISTRICT COURT
8 NORTHERN DISTRICT OF CALIFORNIA
9

10 UNITED STATES DISTRICT COURT
11 NORTHERN DISTRICT OF CALIFORNIA
12 SAN JOSE DIVISION

13 UNITED STATES OF AMERICA,

14 Plaintiff,

15 v.

16 UNITED MICROELECTRONICS
17 CORPORATION; FUJIAN JINHUA
18 INTEGRATED CIRCUIT, CO., LTD.; CHEN
19 ZHENGKUN, a.k.a. STEPHEN CHEN; HE
20 JIANTING, a.k.a. J.T. HO; and WANG
21 YUNGMING, a.k.a. KENNY WANG.
22

Defendants.

CR NO. 18

465 LHK

SVK

) VIOLATIONS:
) Title 18, United States Code, Section 1831(a)(5) –
) Conspiracy to Commit Economic Espionage;
) Title 18, United States Code, Section 1832(a)(5) –
) Conspiracy to Commit Theft of Trade Secrets;
) Title 18, United States Code, Section 1831(a)(1) –
) Economic Espionage (Theft of Trade Secrets);
) Title 18, United States Code, Section 1831(a)(2) –
) Economic Espionage (Copying and Conveying of
Stolen Trade Secrets);
) Title 18, United States Code, Section 1831(a)(3) and
(2) – Economic Espionage (Receipt and Possession of
Stolen Trade Secrets);
) Title 18 United States Code, Section 1832(a)(1) –
Theft of Trade Secrets;
) Title 18, United States Code, Section 2323 –
Criminal Forfeiture
) SAN JOSE VENUE
)

INDICTMENT

The Grand Jury charges:

INTRODUCTORY ALLEGATIONS

1. Dynamic random-access memory (DRAM) is a memory device product used in
electronics to store information. DRAM stores each bit of data in a separate tiny capacitor within an
integrated circuit. DRAM is a technologically advanced commodity; it is widely used in digital

- 1 electronics where low-cost and high-capacity memory is required. DRAM is used in leading-edge
- 2 computing, consumer, networking, automotive, industrial, embedded, and mobile productions, and is a
- 3 product that is used or intended for use in interstate or foreign commerce.

4 2. Growth of the electronics industry in the People's Republic of China (PRC) created
5 significant demand for memory products such as DRAM. The Central Government and State Council of
6 the PRC publicly identified the development of DRAM technology as a national economic priority
7 because PRC companies had not been able to develop technologically advanced DRAM production
8 capabilities, and PRC electronics manufacturers relied on producers outside the PRC to supply DRAM.
9 DRAM production technology was closely held by manufacturers in the United States, South Korea, and
10 Taiwan, including Micron Technology, Inc. ("Micron"), which had improved the technology through
11 intensive research and development over many years.

12 3. Aware of the PRC's national priority and the barriers placed by non-PRC manufacturers,
13 including Micron, on access to the technology, at the times set forth below, individuals and companies
14 named in this Indictment obtained DRAM trade secrets belonging to Micron and conveyed information
15 containing those trade secrets to a company controlled by the PRC government without authorization
16 from Micron.

Defendants

18 4. Defendant United Microelectronics Corporation (“UMC”) was a semiconductor foundry
19 company headquartered in Taiwan with global offices in Taiwan, China, Europe, Singapore, Japan,
20 Korea, and the United States, including in Sunnyvale, California. UMC was publicly listed and traded
21 on the NASDAQ. UMC’s primary business was to mass produce integrated-circuit logic products based
22 on designs and technology developed and provided by its customers. UMC did not, prior to the events
23 charged in this Indictment, possess advanced DRAM-related technology.

24 5. Defendant Fujian Jinhua Integrated Circuit, Co., Ltd. ("Jinhua") was established in
25 February 2016 in the Fujian Province of China for the sole purpose of designing, developing, and
26 manufacturing DRAM. Jinhua was created with US\$5.65 billion in funding provided by the PRC
27 government and PRC government entities. Its two major shareholders were Electronics & Information
28 Group Co., Ltd. and Jinjiang Energy Investment Co., Ltd., which were PRC state-owned enterprises.

1 Jinhua's self-described aim was "to introduce intellects, technology, and resources from Taiwan and the
 2 world, create the first self-dependent DRAM production project and 12 inch DRAM wafer line in China
 3 and fill the blank." Jinhua described itself as having the "duty to realize the domestic manufacturing of
 4 [integrated circuit] chip and aims to become a state owned [integrated circuit] manufacturing enterprise
 5 with advanced process and [an] independent intellectual property system."

6 6. In or around January 2016, UMC entered into a technology cooperation agreement with
 7 Jinhua to develop DRAM technology for a product that UMC referred to as the "32nm and 32Snm
 8 DRAM" or "F32nm/F32Snm DRAM." Under the technology cooperation agreement, UMC would
 9 provide the DRAM research and development, and Jinhua would provide the manufacturing and
 10 fabrication facilities to mass-produce DRAM. UMC and Jinhua were to jointly own the DRAM
 11 technology and development. Under the terms of the agreement, Jinhua would provide US\$300 million
 12 for purchasing necessary equipment for DRAM development and would pay US\$400 million to UMC
 13 based on the progress of DRAM development. In or around April 2016, Taiwan's Ministry of
 14 Economics approved the UMC and Jinhua technology cooperation agreement.

15 7. Defendant Chen Zhengkun (a.k.a. Stephen Chen) was a Taiwanese national and former
 16 General Manager and Chairman of Rexchip Electronics Corporation ("Rexchip"), a company that
 17 Micron acquired in or around 2013, which formed Micron Memory Taiwan Co., Ltd. ("MMT"),
 18 Micron's Taiwan subsidiary. Chen became the President of MMT and Site Director of MMT's
 19 Fabrication Facility 16, responsible for making Micron's 25nm DRAM chip. Chen resigned from MMT
 20 in July 2015 and began working for UMC as the Senior Vice President and Fabrication Director in
 21 Taiwan in September 2015. In or around January 2016, Chen helped negotiate the terms of the
 22 UMC/Jinhua technology cooperation agreement and became the Senior Vice President of UMC's newly
 23 formed New Business Development ("NBD") division, tasked with overseeing UMC's F32nm DRAM
 24 development project and the technology cooperation agreement between UMC and Jinhua. In or around
 25 February 2017, UMC released Chen from his position at UMC, and Chen became the President of
 26 Jinhua in charge of its DRAM production facility.

27 8. Defendant He Jianting (a.k.a. J.T. Ho) was a Taiwanese national and former process
 28 integration manager at MMT, whom Chen recruited to join UMC. Ho resigned from MMT in or around

1 October 2015 and began working at UMC in its process integration division in November 2015. Prior to
 2 leaving MMT, Ho stole Micron confidential and proprietary materials and used the stolen materials in
 3 his work at UMC to advance the development of UMC's F32 DRAM technology design for transfer to
 4 Jinhua. In April 2016, Ho became a project integration manager in UMC NBD's Project Management 2
 5 Department. Between about December 2015 and January 2017, Ho communicated with another former
 6 MMT employee, Wang Yungming (a.k.a. Kenny Wang), using the LINE Messaging platform and
 7 personal emails, to share and exchange confidential and proprietary Micron information to further
 8 UMC's F32nm DRAM technology design.

9 9. Defendant Kenny Wang was a Taiwanese national and former MMT employee, whom
 10 Chen hired to join UMC. At MMT, Wang was a Process Integration/Device Section Manager and
 11 remained in that role until his promotion to Product Quality Integration Section Manager in January
 12 2016 and resignation from MMT in April 2016. While at MMT, Wang shared and exchanged
 13 confidential and proprietary Micron information with Ho, who at the time was working at UMC. Prior
 14 to his official exit from MMT, Wang misappropriated over 900 Micron files, some containing Micron
 15 confidential and proprietary information for the design of the company's DRAM technology in its
 16 current and future generations that were still in its research and development phase. Wang downloaded
 17 trade secrets from Micron's company servers in the United States, took them with him when he left the
 18 company, and stored the files on his Google Drive account located on servers in the United States. After
 19 Wang left MMT in April 2016 and began working at UMC immediately thereafter, he used the
 20 misappropriated confidential and proprietary Micron materials to further UMC's design of the F32nm
 21 DRAM design process.

Micron Trade Secrets and Confidentiality Provisions

22 10. Micron is the only United States-based company that manufactures DRAM. Micron's
 23 headquarters were in Boise, Idaho, and it maintained a large office in the Northern District of California.
 24 The company became a major participant in the global semiconductor industry with its purchase of
 25 Texas Instruments' DRAM memory business in 1998 and thereafter specialized in the advanced
 26 research and development and manufacturing of memory products including, but not limited to, DRAM.
 27 Micron provides approximately 20-25% of the world supply of DRAM. The trade secrets identified
 28

1 below consisted of detailed, confidential information used to design and construct efficient
 2 manufacturing processes for advanced DRAM technology. The development of this information and its
 3 confidentiality provides Micron with a significant competitive advantage in the world market. This
 4 competitive advantage allows Micron to remain in business and continue to research and develop
 5 advanced DRAM for commercial and other uses.

6 11. MMT was a subsidiary of Micron. MMT was one of Micron's fabrication plants in
 7 Taiwan that engaged in making DRAM. MMT assigned all intellectual property, including all trade
 8 secrets that it developed, to Micron.

9 12. Micron's DRAM technology included, but was not limited to, the following trade secrets,
 10 as defined in 18 U.S.C. § 1839(3):

11 a. **Trade Secret 1:** The Micron process to manufacture and produce DRAM
 12 contained in the totality of information stolen by Wang and Ho from Micron and provided to UMC and
 13 Jinhua under the direction of Chen and others. Trade Secret 1 included ways and means in which
 14 proprietary and non-proprietary components were compiled and combined by Micron to form substantial
 15 portions of the DRAM design and manufacturing process, including Trade Secrets 2 through 8, below.

16 b. **Trade Secret 2:** A 233-page PDF document identified with digital filename
 17 "FAB16 90s Traveler-20150518" (hereafter "25nm Process Traveler document"). The 25nm Process
 18 Traveler document contained comprehensive and very detailed information documenting the beginning-
 19 to-end manufacturing process for Micron's 25nm DRAM product, including details of specifications and
 20 production processes.

21 c. **Trade Secret 3:** An Excel spreadsheet with multiple tabs identified with digital
 22 filename "(ALL) IMP conditions Table_20150318" (hereinafter "Implant Conditions Table"). The
 23 Implant Conditions Table contained implant data required to make each of the various different
 24 transistor types required to make a 25nm DRAM product. Data in the Implant Conditions Table
 25 included very specific details of the relevant particular process code - which could be matched back to
 26 process descriptions in Trade Secret 2.

27 d. **Trade Secret 4:** An Excel spreadsheet with multiple tabs identified with digital
 28 filename "Implant Condition for MES setting_1015" (hereafter "Implant Conditions for MES

1 document"). MES referred to a particular software used to track the 25nm DRAM product through the
 2 fabrication process, and the Implant Conditions for MES document was a tracking document that
 3 informed the software. The document inputted into the MES software enabled Micron to closely
 4 monitor and manage its 25nm DRAM fabrication process. The Implant Conditions for MES document
 5 provided critical details to manage the fabrication of the 25nm DRAM product through the fabrication
 6 process and provided information on the precision and outcome of each particular step.

7 e. **Trade Secret 5:** An Excel spreadsheet with multiple tabs identified with digital
 8 filename “[DR25nmS] Design rules Periphery_EES_2012000026-013_Rev.13” (hereafter “Design
 9 Rules document”). The Design Rules document contained detailed design specifications for the
 10 architecture of the 25nm DRAM product, including details on how to layer Micron’s 25nm DRAM
 11 product. The Design Rules document included precise information on how to build distances between
 12 elements in a DRAM product to avoid electrical and physical interference. The Design Rules document
 13 included Micron trade secrets related to these types of specifications, which were critical information
 14 needed to build a 25nm DRAM product.

15 f. **Trade Secret 6:** A 302-page PDF document identified with digital filename
 16 “DRAM_100_series_(20nm)_traveler_(v00h) 150730” (hereafter “20nm Process Traveler document”).
 17 The 20nm Process Traveler document contained the specific types of details summarized in the 25nm
 18 Process Traveler document but for the next generation 20nm DRAM product. The 20nm Process
 19 Traveler document also contained details regarding Micron’s upgrade from the 25nm to the 20nm
 20 DRAM product and contained trade secret information pertinent to both generations of the product.

21 g. **Trade Secret 7:** A 360 page PDF identified with digital filename
 22 “dram_110_series_(1xnm)_traveler_(z11a)-20150915.pdf” (hereafter “1xnm Process Traveler
 23 document”). The 1xnm Process Traveler document contained the comprehensive and very detailed
 24 information documenting the beginning-to-end manufacturing process for Micron’s 1xnm DRAM
 25 product, including details of specifications and production processes. The 1xnm DRAM product was
 26 Micron’s most advanced DRAM at the time. The 1xnm Process Traveler document also contained
 27 details regarding Micron’s upgrade from the 20nm DRAM product to the 1xnm DRAM product and
 28 contained trade secret information pertinent to both generations of the product.

1 h. Trade Secret 8: A 260 page PDF identified with digital filename
2 "dram_1xnm_process_(Z11AA41200)_-_summary_flow_document" (hereafter "1xm Process Summary
3 Flow document"). The 1xnm Process Summary Flow document contained the manufacturing process of
4 the 1xn DRAM chip as it flowed through the manufacturing facility. It compared the 1xnm process flow
5 with prior generations of DRAM products. It described the evolution of the DRAM product to the 1xnm
6 generation, explaining the purpose and reasons why certain changes and upgrades were made from one
7 generation to the next.

8 13. Micron took reasonable measures to keep Trade Secrets 1 through 8 secret, including
9 physical, electronic, legal, and policy measures.

10 14. The information contained in Trade Secrets 1 through 8 derived independent economic
11 value, actual and potential, from not being generally known to, and not being readily ascertainable
12 through proper means by, another person who could obtain economic value from the disclosure or use of
13 the information.

14 15. The value of Trade Secrets 1 through 8, and each of them, to UMC and Jinhua, was at
15 least \$400 million and up to \$8.75 billion, including expenses for research and design and other costs of
16 reproducing the trade secrets that UMC and Jinhua avoided by the actions alleged in Counts 1, 2, and
17 7.

18 | //

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22 119

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1 | COUNT ONE: (18 U.S.C. § 1831(a)(5) – Conspiracy to Commit Economic Espionage)

16. The allegations contained in Paragraphs 1 through 15 are re-alleged.

3 17. Beginning in or about January 2016, and continuing to the date of this Indictment, in the
4 Northern District of California and elsewhere, defendants,

UNITED MICROELECTRONICS CORPORATION,
FUJIAN JINHUA INTEGRATED CIRCUIT, CO., LTD.,
CHEN ZHENGKUN, a.k.a. STEPHEN CHEN,
HE JIANTING, a.k.a. J.T. HO,
WANG YUNGMING, and a.k.a. KENNY WANG,

8 together with others known and unknown to the Grand Jury, knowingly combined, conspired, and
9 agreed to:

a. knowingly steal and without authorization appropriate, take, carry away, and conceal, and by fraud, artifice, and deception obtain trade secrets belonging to Micron; and

12 b. knowingly and without authorization copy, duplicate, sketch, draw, photograph,
13 download, upload, alter, destroy, photocopy, replicate, transmit, deliver, send, mail, communicate, and
14 convey trade secrets belonging to Micron; and

15 c. knowingly receive, buy, and possess trade secrets belonging to Micron, knowing
16 the same to have been stolen, appropriated, obtained, and converted without authorization; intending and
17 knowing that the offenses would benefit a foreign government, namely the PRC, and a foreign
18 instrumentality, namely Jinhua.

Manner and Means of the Conspiracy

20 18. In order to develop DRAM technology and production capabilities without investing
21 years of research and development and the expenditure of many millions of dollars, UMC and Jinhua, a
22 company entirely funded by the PRC government, and employees of both, conspired to circumvent
23 Micron's restrictions on its proprietary technology and illegally obtain DRAM technology that had been
24 developed by Micron, including Trade Secrets 1 through 8.

25 19. In or around February 2016, the PRC formed and funded Jinhua for the purpose of
26 developing, designing, and mass-producing advanced DRAM technology. The PRC prioritized the
27 development of integrated circuit devices, which included DRAM, in its 13th Five-Year Plan, a national
28 plan that included objectives for China's economic priorities for the years 2016-2020, ratified by the

1 National People's Congress, and which established the Chinese Communist Party's vision for the
2 country's future developments.

3 20. In or around January 2016, Jinhua and UMC negotiated and later entered into a
4 technology cooperation agreement whereby, with funding from Jinhua, UMC would develop DRAM
5 technology, transfer the technology to Jinhua, and Jinhua would mass produce DRAM.

6 21. In the years leading up to the technology cooperation agreement, UMC did not have
7 advanced DRAM technology and had not been producing DRAM. UMC, however, had intentions to
8 take over DRAM business in China.

9 22. In September 2015, UMC hired Chen, who was previously the President of MMT and the
10 site director of MMT's Fabrication Facility 16 in charge of producing Micron's 25nm DRAM product,
11 to be the Senior Vice President of UMC. In January 2016, UMC established the NBD division for
12 developing DRAM technology to transfer to Jinhua and placed Chen in charge of the NBD division.

13 23. From in or around October 2015 through April 2016, Chen recruited and hired several
14 MMT employees to work for UMC, including Ho and Wang, among others.

15 24. In or around November 2015, Chen hired Ho to work for UMC. Prior to leaving MMT,
16 Ho stole confidential and proprietary materials belonging to Micron, including trade secrets pertaining to
17 the prior, current, and future generations of Micron's DRAM technology, including the 80 (30nm), 90
18 (25nm), 100 (20nm), and 110 (1Xnm) series DRAM. Ho referenced the stolen Micron materials to
19 support UMC's design of the F32nm DRAM technology for transfer to Jinhua pursuant to the two
20 companies' technology transfer agreement. Ho stored the stolen Micron trade secrets, including Trade
21 Secrets 1, 6, 7, and 8 on one or more digital devices belonging to UMC.

22 25. Between in or around December 2015 and April 2016, Ho communicated with his former
23 colleague Wang, who was still working at MMT. Wang provided Ho with confidential and proprietary
24 Micron information to further UMC's F32nm DRAM technology design, including information related
25 to Micron's wafer specifications for its 25nm DRAM chip.

26 26. On April 26, 2016, Wang left MMT's employment. During Wang's exit interview from
27 MMT, Wang told MMT that he was leaving to work at his family business, and he signed the MMT
28 Declaration of Resignation, declaring and certifying that he did not keep any documents, confidential or

1 otherwise, belonging to the company, and that he destroyed any hard copy or electronic form in his
 2 possession or control that were stored on non-Micron property, including computers, phone, personal
 3 email, or file sharing accounts.

4 27. Wang did not leave to work for his family business but rather immediately began
 5 working for UMC.

6 28. In the weeks leading up to Wang's resignation from MMT, he downloaded over 900
 7 confidential and proprietary files belonging to Micron, including Trade Secrets 1-8, by downloading the
 8 files from Micron servers and transferring them to USB external storage devices or uploading the files to
 9 his personal Google Cloud account stored on servers in the United States. Many of the files were
 10 marked "Micron Confidential," "Micron Technology, Inc., Confidential and Proprietary," or "Micron
 11 Confidential/Do Not Duplicate." The created dates in the Google files metadata showed that Wang
 12 accessed Micron confidential and proprietary files both before and after he left Micron employment, and
 13 while working at UMC.

14 29. In the weeks leading up to Wang's resignation from MMT, Wang ran numerous deletion
 15 processes and a CCleaner program on his laptop computer to mask his theft of Micron trade secrets. He
 16 also conducted numerous internet searches, accessing a number of publicly available news articles about
 17 the PRC government's support of the growth of the DRAM business in the PRC, and specifically on
 18 UMC and Jinhua's cooperation toward creating and producing DRAM.

19 30. While working at UMC, Wang referenced Micron trade secrets to assist and further
 20 UMC's development of its F32nm DRAM technology. In or around July or August 2016, Wang, at the
 21 direction of a UMC employee, referenced Micron's Trade Secret 5 and provided critical design rule data
 22 to that employee to further UMC's development of its F32nm DRAM technology, knowing that UMC
 23 would transfer the technology to Jinhua. Wang used his UMC-assigned laptop to access his Google
 24 Drive, download a copy of Trade Secret 5, and reference the data contained therein to assist UMC with
 25 its F32nm DRAM design rule. UMC employees were directed to use the information Wang provided to
 26 complete UMC's F32nm DRAM design rule. Trade Secret 5 and UMC's F32nm DRAM design rule
 27 were stored in Wang's Google Drive, and a comparison of the two show Micron's information being
 28 used in UMC's F32nm DRAM design rule document.

1 31. On October 23, 2016, Chen, UMC, Jinhua, and government officials from the PRC
2 attended a Jinhua/UMC recruiting fair in the Northern District of California to recruit employees from
3 the United States with semi-conductor experience to work for both companies in either the research and
4 development or sales and marketing division. Chen stated at the recruiting fair that UMC had
5 transferred its 25nm DRAM chip to Jinhua. On or about October 24, 2016, Chen and others from UMC
6 and Jinhua, including the mayors from the PRC cities of Jinjiang and Quanzhou, also visited several
7 semiconductor equipment-manufacturing companies in the Northern District of California to facilitate
8 its DRAM production process. While at the recruiting fair and visiting the equipment-manufacturing
9 companies in the Northern District of California, Chen, UMC, and Jinhua had obtained and were in
10 continuous control of the stolen Micron trade secrets.

11 32. From in or around September 2016 through March 2017, UMC and Jinhua filed five
12 patents and a patent application concerning DRAM technology that contained information that was the
13 same or very similar to technology described in Micron's Trade Secrets 2 and 6. Ho was listed as an
14 inventor in each of the five patents and the patent application. The information contained in the patents
15 and patent application contained Micron trade secrets that could not be obtained through reverse
16 engineering.

17 33. In February 2017, Taiwan law enforcement authorities executed search warrants and
18 seized items from UMC's offices and Ho's and Wang's residences. They found electronic and hard
19 copy files containing Micron trade secrets in areas and on devices associated with UMC and belonging
20 to Ho and Wang. Knowing that Taiwan law enforcement was on its way to execute search warrants at
21 UMC, a UMC employee directed both Ho and Wang to remove any electronic devices they possessed
22 that contained Micron information on them. Some of the electronic devices that contained Micron
23 information were turned over to Taiwan law enforcement. At least one electronic device that contained
24 Micron information was not turned over to Taiwan law enforcement and had been concealed by UMC
25 and Chen.

26 34. In or around February 2017, in addition to his position at UMC, Chen assumed the post
27 of President of Jinhua.
28

Overt Acts

35. Between in or about October 2015 and April 2016, Chen recruited Micron employees Ho and Wang to work at UMC to develop F32nm DRAM technology.

36. In or around January 2016, UMC entered a technology cooperation agreement to develop and transfer F32nm DRAM technology to Jinhua, a state-owned enterprise of the People's Republic of China.

37. In or around October 2015, Ho stole Micron trade secrets, including Trade Secret 1 and files identified as Trade Secrets 6, 7, and 8, and brought them with him to UMC. In or around December 2015, Ho saved files identified as Trade Secrets 6, 7, and 8 onto his UMC laptop.

38. In or around December 2015, Ho obtained from Chen a UMC company laptop with USB capability in order to access confidential and proprietary Micron materials in support of the UMC F32nm DRAM project.

39. On or about February 28, 2016, Wang downloaded Trade Secret 5 from Micron servers. On or about May 4, 2016 and June 29, 2016, Wang uploaded Trade Secret 5 to his BRH5476 Google Cloud Account.

40. On or about April 23, 2016, Wang downloaded Trade Secrets 2, 3, and 4 from his Micron company laptop and uploaded Trade Secrets 2, 3, and 4 to his BRH5476 Google Cloud Account.

41. On or about April 23, 2016, Wang downloaded Trade Secret 6 from Micron servers. On or about April 23, 2016 and October 23, 2016, Wang uploaded Trade Secret 6 to his BRH5476 Google Cloud Account.

42. On or about May 22, 2016, Wang emailed Trade Secret 5 from his BRH5476 Gmail Account to his UMC email account.

43. In or around July or August 2016, Wang used stolen Micron trade secret material contained in Trade Secret 5 to assist UMC with its design of the F32nm DRAM product. Information from Trade Secret 5 was put into UMC's document titled: UMC 32nm DRAM Process Topological Layout Rule Version 0.1, Phase 3 (Revision History Approved Date August 1, 2016).

44. On or about October 10, 2016, Wang uploaded Trade Secrets 7 and 8 to his BRH5476 Google Cloud Account.

1 45. On or about October 18, 2016, UMC and Jinhua filed a patent application (with
2 corresponding Patent No. 9,679,901 B1) in the United States Patent and Trademark Office, which
3 claimed priority to a Chinese patent application filed on September 22, 2016. Ho was listed as a named
4 inventor on the patent application. The disclosures and inventions described in the patent application
5 were based on or derived from misappropriated proprietary Micron materials identified in Trade Secrets
6 2 and 6. On June 13, 2017, the United States Patent and Trademark Office issued patent 9,679,901 B1
7 to UMC and Jinhua.

8 46. On or about October 23, 2016, UMC, Jinhua, and Chen, after having obtained Micron
9 trade secrets and being in continuous control over them, arranged and coordinated a UMC/Jinhua
10 recruiting event in the Northern District of California to recruit employees from the United States with
11 semi-conductor experience to work for UMC/Jinhua. PRC government officials attended the event to
12 show support for the companies. Chen announced at the recruiting event that UMC had transferred the
13 F32nm DRAM design technology to Jinhua.

14 47. On or about October 24, 2016, UMC, Jinhua, Chen, and government officials from the
15 PRC visited Applied Materials, Lam Research, and KLA Tencor, semiconductor equipment-
16 manufacturing companies in the Northern District of California, to facilitate and further its DRAM
17 production process.

18 48. In February 2017, a UMC employee directed Ho and Wang to remove and hide electronic
19 devices containing Micron information from Taiwan law enforcement who were going to search UMC's
20 offices.

21 49. Sometime after February 2017, UMC and Chen concealed at least one electronic device
22 containing misappropriated Micron materials from Taiwan law enforcement.

23 All in violation of Title 18, United States Code, Section 1831(a)(5).

24 ///

25 ///

26 ///

27 ///

28 ///

1 COUNT TWO: (18 U.S.C. § 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets)

2 50. The allegations contained in Paragraphs 1 through 15 are re-alleged and incorporated as
3 if fully set forth herein.

4 51. Beginning in or about October 2015, and continuing to the date of this Indictment, in the
5 Northern District of California and elsewhere, defendants,

6 UNITED MICROELECTRONICS CORPORATION,
7 FUJIAN JINHUA INTEGRATED CIRCUIT, CO., LTD.,
8 CHEN ZHENGKUN, a.k.a. STEPHEN CHEN,
HE JIANTING, a.k.a. J.T. HO,
WANG YUNGMING, and a.k.a. KENNY WANG,

9 together with others known and unknown to the Grand Jury, knowingly combined, conspired, and
10 agreed to:

11 a. knowingly steal and without authorization appropriate, take, carry away, and
conceal, and by fraud, artifice, and deception obtain trade secrets belonging to Micron; and

13 b. knowingly and without authorization copy, duplicate, sketch, draw, photograph,
download, upload, alter, destroy, photocopy, replicate, transmit, deliver, send, mail, communicate, and
15 convey trade secrets belonging to Micron; and

16 c. knowingly receive, buy, and possess trade secrets belonging to Micron, knowing
the same to have been stolen, appropriated, obtained, and converted without authorization;
18 intending to convert a trade secret that is related to a product, namely DRAM, that is used in and
19 intended for use in interstate and foreign commerce, to the economic benefit of someone other than
20 Micron, and intending and knowing that the offense would injure Micron.

21 Manner and Means of the Conspiracy

22 52. The objects of the conspiracy were carried out, in part, as alleged in Paragraphs 18
through 34 above.

24 Overt Acts

25 53. In furtherance of the conspiracy and to effect its objects, defendants committed the overt
26 acts alleged in paragraphs 34 through 49, among others, in the Northern District of California and
27 elsewhere.

28 All in violation of Title 18, United States Code, Section 1832(a)(5).

COUNT THREE: (18 U.S.C. § 1831(a)(1) – Economic Espionage (Theft of Trade Secrets))

2 54. The allegations contained in Paragraphs 1 through 49 are re-alleged.

3 55. From in or about March 2016 to in or about October 2016, in the Northern District of
4 California and elsewhere, defendant

WANG YUNGMING, a.k.a. KENNY WANG,

6 intending and knowing that he would benefit a foreign government, foreign instrumentality, and foreign
7 agent, knowingly stole, and without authorization, appropriated, took, carried away, and concealed, and
8 by fraud, artifice, and deception, obtained Trade Secrets 1 through 8, in violation of Title 18, United
9 States Code, Section 1831(a)(1).

COUNT FOUR: (18 U.S.C. § 1831(a)(2) – Economic Espionage (Copying and Conveying of Trade Secrets))

56. The allegations contained in Paragraphs 1 through 49 are re-alleged.

13 57. From in or about March 2016 to in or about February 2017, in the Northern District of
14 California and elsewhere, defendant

15 WANG YUNGMING, a.k.a. KENNY WANG,

16 intending and knowing that he would benefit a foreign government, foreign instrumentality, and foreign
17 agent, knowingly and without authorization, copied, duplicated, downloaded, uploaded, replicated,
18 transmitted, delivered, sent, communicated, and conveyed Trade Secrets 1 and 5, in violation of Title 18,
19 United States Code, Section 1831(a)(2).

COUNT FIVE: (18 U.S.C. § 1831(a)(2) – Economic Espionage (Copying and Conveying of Trade Secrets))

58. The allegations contained in Paragraphs 1 through 49 are re-alleged.

23 59. From in or about February 2016 to in or about February 2017, in the Northern District of
24 California and elsewhere, defendant

HE JIANTING, a.k.a. J.T. HO,

26 intending and knowing that he would benefit a foreign government, foreign instrumentality, and foreign
27 agent, knowingly and without authorization, copied, duplicated, downloaded, uploaded, replicated,
28 transmitted, delivered, sent, communicated, and conveyed Trade Secret 1, in violation of Title 18,

1 United States Code, Section 1831(a)(2).

2

3 **COUNT SIX:** (18 U.S.C. § 1832 (a)(1) – Theft of Trade Secrets)

4 60. The allegations contained in Paragraphs 1 through 49 are re-alleged.

5 61. In or about October 2015, in the Northern District of California and elsewhere, defendant
6 HE JIANTING, a.k.a. J.T. HO,

7 intending to convert a trade secret to the economic benefit of someone other than Micron, and intending
8 and knowing that the offense would injure Micron, knowingly stole and without authorization
9 appropriated, took, carried away, concealed, and by fraud, artifice and deception obtained Trade Secrets
10 1, 6, 7, and 8, related to a product and service used in and intended for use in interstate and foreign
11 commerce, in violation of Title 18, United States Code, Section 1832(a)(1).

12

13 **COUNT SEVEN:** (18 U.S.C. §§ 1831(a)(3) and 2 – Economic Espionage (Receiving and Possessing
14 Stolen Trade Secrets))

15 62. The allegations contained in Paragraphs 1 through 49 are re-alleged.

16 63. From in or about February 2016 to the present, in the Northern District of California and
17 elsewhere, defendants,

18 UNITED MICROELECTRONICS CORPORATION,
19 FUJIAN JINHUA INTEGRATED CIRCUIT, CO., LTD.,
20 CHEN ZHENGKUN, a.k.a. STEPHEN CHEN,
21 HE JIANTING, a.k.a. J.T. HO, and
22 WANG YUNGMING, a.k.a. KENNY WANG,

23 intending and knowing that they would benefit a foreign government, foreign instrumentality, and
24 foreign agent, knowingly received, bought, and possessed Trade Secrets 1 through 8, knowing them to
25 have been stolen and appropriated, obtained, and converted without authorization, in violation of Title
26 18, United States Code, Sections 1831(a)(3) and 2.

27 ///

28 ///

29 ///

30 ///

CRIMINAL FORFEITURE ALLEGATION:

64. The allegations contained in Counts One through Seven of this Indictment are hereby realleged and incorporated by reference for the purpose of alleging forfeiture pursuant to 18 U.S.C. § 2323(b).

65. As a result of their conviction on one or more of the felony offenses set forth in Counts One through Seven of this Indictment, defendants,

UNITED MICROELECTRONICS CORPORATION,
FUJIAN JINHUA INTEGRATED CIRCUIT, CO., LTD.,
CHEN ZHENGKUN, a.k.a. STEPHEN CHEN,
HE JIANTING, a.k.a. J.T. HO,
WANG YUNGMING, and a.k.a. KENNY WANG,

shall forfeit the following property, real or personal, to the United States:

- (1) Any article, the making or trafficking of which, is prohibited under 18 U.S.C. Chapter 90;

(2) Any property used, or intended to be used, in any manner or part to commit or facilitate a violation of 18 U.S.C. Chapter 90; and

(3) Any property constituting or derived from any proceeds obtained directly or indirectly as a result of a violation of 18 U.S.C. Chapter 90.

66. If any of the property described above, as a result of any act or omission of the defendant:

- a. cannot be located upon exercise of due diligence;
- b. has been placed beyond the jurisdiction of the Court;
- c. has been transferred or sold to, or deposited with a third party;
- d. has been substantially diminished in value; or
- e. has been commingled with other property which cannot be divided without difficulty;

111

11

35 | //

36 //

27 //

38 //

1 the United States of America shall be entitled to forfeiture of substitute property pursuant to Title
2 21, United States Code, Section 853(p), all pursuant to Title 18, United States Code, Section 2323(b).

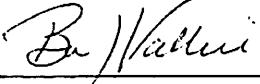
3
4 DATED: Sept. 21, 2018

A TRUE BILL.

5
6
7 
FOREPERSON

8 San Francisco Grand Jury No. 17-3

9 ALEX G. TSE
United States Attorney

10 
11 BARBARA VALLIERE

12 Chief, Criminal Division

13 Approved as to form:

14 
15 JOHN H. HEMANN
Deputy Chief, Criminal Division
16 SHIAO LEE
Assistant United States Attorney

AC 257 (Rev. 6/78)

DEFENDANT INFORMATION RELATIVE TO A CRIMINAL ACTION - IN U.S. DISTRICT COURTBY: COMPLAINT INFORMATION INDICTMENT SUPERSEDING**OFFENSE CHARGED**

See Attached

- Petty
 Minor
 Misdemeanor
 Felony

PENALTY:

See Attached

UNDER SEAL

Name of District Court, and/or Judge/Magistrate Location

NORTHERN DISTRICT OF CALIFORNIA

CLERK SUSAN NORTHERN DIVISION SAN JOSE

DISTRICT OF CALIFORNIA SAN JOSE

DEFENDANT - U.S.

United Microelectronics Corporation, Inc.

DISTRICT COURT NUMBER

CR 18 465

DEFENDANT*LHK***IS NOT IN CUSTODY**

Has not been arrested, pending outcome this proceeding.

1) If not detained give date any prior summons was served on above charges *6/27/18*2) Is a Fugitive3) Is on Bail or Release from (show District) *SVK***IS IN CUSTODY**4) On this charge5) On another conviction } Federal State6) Awaiting trial on other charges

If answer to (6) is "Yes", show name of institution

Has detainer Yes
been filed? No} If "Yes"
give date
filedDATE OF
ARREST

Month/Day/Year

Or... if Arresting Agency & Warrant were not

DATE TRANSFERRED
TO U.S. CUSTODY

Month/Day/Year

 This report amends AO 257 previously submittedName and Office of Person
Furnishing Information on this form

ALEX G. TSE

 U.S. Attorney Other U.S. AgencyName of Assistant U.S.
Attorney (if assigned)

John Hemann and Shiao Lee

PROCESS: SUMMONS NO PROCESS* WARRANT

Bail Amount: _____

If Summons, complete following:

 Arraignment Initial Appearance

* Where defendant previously apprehended on complaint, no new summons or warrant needed, since Magistrate has scheduled arraignment

Defendant Address:

United Microelectronics Corporation, Inc.

Date/Time: November 19, 2018

Before Judge: Duty Magistrate

SVK

Comments:

*1:30pm**AJ*

**PENALTY SHEET ATTACHMENT (UNITED MICROELECTRONICS
CORPORATION, INC.)**

Offenses Charged

Count One: 18 U.S.C. § 1831(a)(5) – Conspiracy to Commit Economic Espionage

Count Two: 18 U.S.C. § 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets

Count Seven: 18 U.S.C. §§ 1831(a)(3) and 2 – Economic Espionage (Receiving and Possessing Stolen Trade Secrets)

Maximum Penalties

Counts One and Seven:

- A fine not more than the greater of \$10,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided;
- Restitution;
- Asset Forfeiture; and
- \$400 special assessment

Count Two:

- A fine not more than the greater of \$5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided;
- Restitution;
- Asset Forfeiture; and
- \$400 special assessment

A1

AO 257 (Rev. 6/78)

FILED
SEP 27 2018

DEFENDANT INFORMATION RELATIVE TO A CRIMINAL ACTION - IN U.S. DISTRICT COURT

BY: COMPLAINT INFORMATION INDICTMENT
 SUPERSEDING

OFFENSE CHARGED

See Attached

- Petty
 Minor
 Misdemeanor
 Felony

PENALTY:

See Attached

PROCEEDING

Name of Complainant Agency, or Person (& Title, if any)

Federal Bureau of Investigation

person is awaiting trial in another Federal or State Court,
 give name of court

this person/proceeding is transferred from another district
per (circle one) FRCrp 20, 21, or 40. Show District

this is a reprocution of
charges previously dismissed
 which were dismissed on motion
of:

U.S. ATTORNEY DEFENSE

SHOW DOCKET NO.

this prosecution relates to a
pending case involving this same
defendant

MAGISTRATE CASE NO.

prior proceedings or appearance(s)
 before U.S. Magistrate regarding this
defendant were recorded under

Name and Office of Person
Furnishing Information on this form ALEX G. TSE

U.S. Attorney Other U.S. Agency

Name of Assistant U.S.
Attorney (if assigned) John Hemann and Shiao Lee

PROCESS:

SUMMONS NO PROCESS* WARRANT

Bail Amount: _____

If Summons, complete following:

Arraignment Initial Appearance

* Where defendant previously apprehended on complaint, no new summons or warrant needed, since Magistrate has scheduled arraignment

Defendant Address:

Fujian Jinhua Integrated Circuit, Co., Ltd.

Comments:

C 1:30pm

Before Judge: Duty Magistrate

SWK AD

Name of District Court, and/or Judge/Magistrate Location

NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION
U.S. DISTRICT COURT
SAN JOSE, CALIFORNIA

DEFENDANT - U.S.

► Fujian Jinhua Integrated Circuit, Co., Ltd.

DISTRICT COURT NUMBER

CR 18 465 LHK

DEFENDANT

IS NOT IN CUSTODY

Has not been arrested, pending outcome this proceeding.

1) If not detained give date any prior
summons was served on above charges

2) Is a Fugitive3) Is on Bail or Release from (show District)

IS IN CUSTODY

4) On this charge5) On another conviction} Federal State6) Awaiting trial on other charges

If answer to (6) is "Yes", show name of institution

Has detainer Yes
been filed? No} If "Yes"
give date
filedDATE OF
ARREST

Month/Day/Year

Or... if Arresting Agency & Warrant were not

DATE TRANSFERRED
TO U.S. CUSTODY

Month/Day/Year

 This report amends AO 257 previously submitted

ADDITIONAL INFORMATION OR COMMENTS

SUMMONS NO PROCESS* WARRANT

Bail Amount: _____

If Summons, complete following:

Arraignment Initial Appearance

* Where defendant previously apprehended on complaint, no new summons or warrant needed, since Magistrate has scheduled arraignment

Defendant Address:

Fujian Jinhua Integrated Circuit, Co., Ltd.

Comments:

SWK AD

PENALTY SHEET ATTACHMENT (FUJIAN JINHUA INTEGRATED CIRCUIT, CO., LTD.)

Offenses Charged

Count One: 18 U.S.C. § 1831(a)(5) – Conspiracy to Commit Economic Espionage

Count Two: 18 U.S.C. § 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets

Count Seven: 18 U.S.C. §§ 1831(a)(3) and 2 – Economic Espionage (Receiving and Possessing Stolen Trade Secrets)

Maximum Penalties

Counts One and Seven:

- A fine not more than the greater of \$10,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided;
- Restitution;
- Asset Forfeiture; and
- \$400 special assessment

Count Two:

- A fine not more than the greater of \$5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided;
- Restitution;
- Asset Forfeiture; and
- \$400 special assessment

12

AO 257 (Rev. 6/78)

DEFENDANT INFORMATION RELATIVE TO A CRIMINAL ACTION - IN U.S. DISTRICT COURT

BY: COMPLAINT INFORMATION INDICTMENT
 SUPERSEDING

OFFENSE CHARGED

See Attached

- Petty
 Minor
 Misdemeanor
 Felony

PENALTY:

See Attached

PROCEEDING

Name of Complainant Agency, or Person (& Title, if any)

Federal Bureau of Investigation

person is awaiting trial in another Federal or State Court,
give name of court _____

this person/proceeding is transferred from another district
per (circle one) FRCrp 20, 21, or 40. Show District

this is a reprosecution of
 charges previously dismissed
which were dismissed on motion
of:

U.S. ATTORNEY DEFENSE

this prosecution relates to a
pending case involving this same
defendant

prior proceedings or appearance(s)
before U.S. Magistrate regarding this
defendant were recorded under

SHOW
DOCKET NO.

MAGISTRATE
CASE NO.

Name and Office of Person
Furnishing Information on this form

ALEX G. TSE

U.S. Attorney Other U.S. Agency

Name of Assistant U.S.
Attorney (if assigned)

John Hemann and Shiao Lee

PROCESS:

SUMMONS NO PROCESS* WARRANT

Bail Amount: _____

If Summons, complete following:

Arraignment Initial Appearance

Defendant Address:

CHEN ZHENGKUN a.k.a. STEPHEN CHEN

* Where defendant previously apprehended on complaint, no new summons or warrant needed, since Magistrate has scheduled arraignment

Date/Time: November 19, 2018

Before Judge: Duty Magistrate

Comments:

e 1:30pm

13

Name of District Court, and/or Judge/Magistrate Location

NORTHERN DISTRICT OF CALIFORNIA

NOV 23 2018

SAN JOSE DIVISION

SAN JOSE DISTRICT COURT

SAN JOSE, CALIFORNIA

DEFENDANT - U.S.

CHEN ZHENGKUN a.k.a. STEPHEN CHEN

DISTRICT COURT NUMBER

CR 18 465

DEFENDANT**IS NOT IN CUSTODY**

Has not been arrested, pending outcome this proceeding.

1) If not detained give date any prior
summons was served on above charges

2) Is a Fugitive3) Is on Bail or Release from (show District)

LHK
SVK

IS IN CUSTODY4) On this charge5) On another conviction

} Federal State

6) Awaiting trial on other charges

If answer to (6) is "Yes", show name of institution

Has detainer Yes
been filed? No

} If "Yes"
give date
filed _____

DATE OF
ARREST

Month/Day/Year

Or... if Arresting Agency & Warrant were not

DATE TRANSFERRED
TO U.S. CUSTODY

Month/Day/Year

This report amends AO 257 previously submitted

ADDITIONAL INFORMATION OR COMMENTS	
PROCESS:	
<input checked="" type="checkbox"/> SUMMONS <input type="checkbox"/> NO PROCESS* <input type="checkbox"/> WARRANT	Bail Amount: _____
If Summons, complete following:	
<input checked="" type="checkbox"/> Arraignment <input checked="" type="checkbox"/> Initial Appearance	
Defendant Address:	
CHEN ZHENGKUN a.k.a. STEPHEN CHEN	
Comments: <p><i>e 1:30pm</i></p>	

PENALTY SHEET ATTACHMENT (CHEN ZHENGKUN, a.k.a. STEPHEN CHEN)

Offenses Charged

Count One: 18 U.S.C. § 1831(a)(5) – Conspiracy to Commit Economic Espionage

Count Two: 18 U.S.C. § 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets

Count Seven: 18 U.S.C. §§ 1831(a)(3) and 2 – Economic Espionage (Receiving and Possessing Stolen Trade Secrets)

Maximum Penalties

Counts One and Seven:

- \$5,000,000 fine or twice the gross gain or loss
- 15 years imprisonment
- 3 years supervised release
- \$100 special assessment
- Restitution
- Forfeiture

Count Two:

- \$250,000 fine or twice the gross gain or loss
- 10 years imprisonment
- 3 years supervised release
- \$100 special assessment
- Restitution
- Forfeiture

13

AO 257 (Rev. 6/78)

FILED
AUG 20 2018
CLERK SUSAN A. SAWYER
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

DEFENDANT INFORMATION RELATIVE TO A CRIMINAL ACTION - IN U.S. DISTRICT COURT

BY: COMPLAINT INFORMATION INDICTMENT SUPERSEDING

OFFENSE CHARGED

See Attached

- Petty
- Minor
- Misdemeanor
- Felony

PENALTY:

See Attached

UNDER SEAL

PROCEEDING

Name of Complainant Agency, or Person (& Title, if any)

Federal Bureau of Investigation

person is awaiting trial in another Federal or State Court,
give name of court

this person/proceeding is transferred from another district
per (circle one) FRCrp 20, 21, or 40. Show District

this is a reprocution of
charges previously dismissed
 which were dismissed on motion
of:

U.S. ATTORNEY DEFENSE

SHOW DOCKET NO.

this prosecution relates to a
pending case involving this same
defendant

prior proceedings or appearance(s)
before U.S. Magistrate regarding this
defendant were recorded under

MAGISTRATE CASE NO.

Name and Office of Person
Furnishing Information on this form ALEX G. TSE U.S. Attorney Other U.S. AgencyName of Assistant U.S.
Attorney (if assigned) John Hemann and Shiao Lee

PROCESS:

SUMMONS NO PROCESS* WARRANT

Bail Amount: _____

If Summons, complete following:

Arraignment Initial Appearance

* Where defendant previously apprehended on complaint, no new summons or warrant needed, since Magistrate has scheduled arraignment

Defendant Address:

HE JIANTING a.k.a. J.T. HO

Comments:

Date/Time: November 19, 2018 Before Judge: Duty Magistrate

1:30pm

-SVK
DAName of District Court, and/or Judge/Magistrate/Location
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

DEFENDANT - U.S.

HE JIANTING a.k.a. J.T. HO

DISTRICT COURT NUMBER
CR 18 465

LHK SVK

DEFENDANT

IS NOT IN CUSTODY

Has not been arrested, pending outcome this proceeding.

1) If not detained give date any prior
summons was served on above charges2) Is a Fugitive3) Is on Bail or Release from (show District)

IS IN CUSTODY

4) On this charge5) On another conviction} Federal State6) Awaiting trial on other charges

If answer to (6) is "Yes", show name of institution

Has detainer Yes
been filed? No} If "Yes"
give date
filedDATE OF
ARREST

Month/Day/Year

Or... if Arresting Agency & Warrant were not

DATE TRANSFERRED
TO U.S. CUSTODY

Month/Day/Year

 This report amends AO 257 previously submitted

ADDITIONAL INFORMATION OR COMMENTS

Comments:

PENALTY SHEET ATTACHMENT (HE JIANTING a.k.a. J.T. HO)

Offenses Charged

Count One: 18 U.S.C. § 1831(a)(5) – Conspiracy to Commit Economic Espionage

Count Two: 18 U.S.C. § 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets

Count Five: 18 U.S.C. § 1831(a)(2) – Economic Espionage (Copying and Conveying Trade Secrets)

Count Six: 18 U.S.C. § 1832(a)(1) – Theft of Trade Secrets

Count Seven: 18 U.S.C. §§ 1831(a)(3) and 2 – Economic Espionage (Receiving and Possessing Stolen Trade Secrets)

Maximum Penalties

Counts One, Five, and Seven:

- \$5,000,000 fine or twice the gross gain or loss
- 15 years imprisonment
- 3 years supervised release
- \$100 special assessment
- Restitution
- Forfeiture

Counts Two and Six:

- \$250,000 fine or twice the gross gain or loss
- 10 years imprisonment
- 3 years supervised release
- \$100 special assessment
- Restitution
- Forfeiture

[Handwritten signature]

AO 257 (Rev. 6/78)

FILED
SEP 27 2018**DEFENDANT INFORMATION RELATIVE TO A CRIMINAL ACTION - IN U.S. DISTRICT COURT**

BY: COMPLAINT INFORMATION INDICTMENT
 SUPERSEDING

OFFENSE CHARGED

See Attached

- Petty
 Minor
 Misdemeanor
 Felony

PENALTY:
See Attached

UNDER SEAL**PROCEEDING**

Name of Complainant Agency, or Person (& Title, if any)

Federal Bureau of Investigation

person is awaiting trial in another Federal or State Court,
give name of court

this person/proceeding is transferred from another district
per (circle one) FRCrp 20, 21, or 40. Show District

this is a reprocution of
charges previously dismissed
which were dismissed on motion
of:

U.S. ATTORNEY DEFENSE

SHOW DOCKET NO.

this prosecution relates to a
pending case involving this same
defendant

prior proceedings or appearance(s)
before U.S. Magistrate regarding this
defendant were recorded under

MAGISTRATE CASE NO.

Name and Office of Person
Furnishing Information on this form ALEX G. TSE

U.S. Attorney Other U.S. Agency

Name of Assistant U.S.
Attorney (if assigned) John Hemann and Shiao Lee

PROCESS:

SUMMONS NO PROCESS* WARRANT

Bail Amount: _____

If Summons, complete following:

Arraignment Initial Appearance

Defendant Address:

WANG YUNGMING a.k.a. KENNY WANG

Comments:

Name of District Court, and/or Judge/Magistrate, location

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

SAN JOSE, CALIFORNIA

DEFENDANT - U.S.

WANG YUNGMING a.k.a. KENNY WANG

DISTRICT COURT NUMBER

CR 18 465

LHK

DEFENDANT**IS NOT IN CUSTODY**

Has not been arrested, pending outcome this proceeding.

1) If not detained give date any prior
summons was served on above charges

SVK

2) Is a Fugitive3) Is on Bail or Release from (show District)**IS IN CUSTODY**4) On this charge5) On another conviction

} Federal State

6) Awaiting trial on other charges

If answer to (6) is "Yes", show name of institution

Has detainer Yes
been filed? No

} If "Yes"
give date
filed

DATE OF
ARREST

Month/Day/Year

Or... if Arresting Agency & Warrant were not

DATE TRANSFERRED
TO U.S. CUSTODY

Month/Day/Year

This report amends AO 257 previously submitted

ADDITIONAL INFORMATION OR COMMENTS

* Where defendant previously apprehended on complaint, no new summons or warrant needed, since Magistrate has scheduled arraignment

Date/Time: November 19, 2018 Before Judge: Duty Magistrate

② 1:30 pm
A5

PENALTY SHEET ATTACHMENT (WANG YUNGMING a.k.a. KENNY WANG)

Offenses Charged

Count One: 18 U.S.C. § 1831(a)(5) – Conspiracy to Commit Economic Espionage

Count Two: 18 U.S.C. § 1832(a)(5) – Conspiracy to Commit Theft of Trade Secrets

Count Three: 18 U.S.C. § 1831(a)(1) – Economic Espionage (Theft of Trade Secrets)

Count Four: 18 U.S.C. § 1831(a)(2) – Economic Espionage (Copying and Conveying Trade Secrets)

Count Seven: 18 U.S.C. §§ 1831(a)(3) and 2 – Economic Espionage (Receiving and Possessing Stolen Trade Secrets)

Maximum Penalties

Counts One, Three, Four, and Seven:

- \$5,000,000 fine or twice the gross gain or loss
- 15 years imprisonment
- 3 years supervised release
- \$100 special assessment
- Restitution
- Forfeiture

Count Two:

- \$250,000 fine or twice the gross gain or loss
- 10 years imprisonment
- 3 years supervised release
- \$100 special assessment
- Restitution
- Forfeiture

25

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

FILED

SEP 27 2018

SUSAN Y. SOONG
CLERK U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

UNDER SEAL
CRIMINAL COVER SHEET

Instructions: Effective November 1, 2016, this Criminal Cover Sheet must be completed and submitted, along with the Defendant Information Form, for each new criminal case.

CASE NAME:

USA v. JUNITED MICROELECTONICS CORPORATION, et al.

CASE NUMBER:

CR
C R 18 465
LHK SVK

Is This Case Under Seal?

No

Total Number of Defendants:

Five

Does this case involve ONLY charges under 8 U.S.C. § 1325 and/or 1326?

No

Venue (Per Crim. L.R. 18-1):

San Jose

Is this a potential high-cost case?

No

Is any defendant charged with a death-penalty-eligible crime?

No

Is this a RICO Act gang case?

No

**Assigned AUSA
(Lead Attorney):** Shiao C. Lee**Date Submitted:** 9/27/2018**Comments:**

Ex. 2

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4 Chief, Civil Division

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9 Attorneys for the United States

10 UNITED STATES DISTRICT COURT

11 NORTHERN DISTRICT OF CALIFORNIA

12 UNITED STATES OF AMERICA,) CASE NO.
13 Plaintiff,)
14 v.)
15 UNITED MICROELECTRONICS) **UNITED STATES' COMPLAINT
16 CORPORATION; FUJIAN JINHUA FOR INJUNCTIVE RELIEF
17 INTEGRATED CIRCUIT, CO., LTD.; and
18 CHEN ZHENGKUN a.k.a. STEPHEN CHEN,**
Defendants.)

19 **INTRODUCTION**

20 1. The United States of America (“United States”) brings this action against Defendants
21 United Microelectronics Corporation (“UMC”), Fujian Jinhua Integrated Circuit, Co., Ltd. (“Jinhua”), and
22 Chen Zhengkun a.k.a. Stephen Chen (“Chen”), pursuant to 18 U.S.C. § 1836, to obtain permanent
23 injunctive relief to prevent Defendants from (1) exporting, reexporting, causing the export of, attempting
24 to export to the United States; selling or supplying, directly or indirectly to the United States; or causing
25 the import into the United States of, any products containing DRAM manufactured by Jinhua or UMC; or
26 conducting any transaction that evades or avoids or has the purpose of evading or avoiding that
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1 prohibition; or (2) transferring or in any way conveying Trade Secrets 1-8 (described below) to any other
2 individual or entity; and for all such further relief as may be just and proper.

3 2. The United States has criminally charged Defendants UMC, Jinhua, and Chen with
4 conspiracy to commit economic espionage in violation of 18 U.S.C. § 1831(a)(5); conspiracy to commit
5 theft of trade secrets in violation of 18 U.S.C. § 1832(a)(5); and knowing receipt, purchase, and possession
6 of trade secrets, knowing them to have been stolen and appropriated, obtained, and converted without
7 authorization, in violation of 18 U.S.C. §§ 1831(a)(3) and 2. *See Indictment, United States v. United*
8 *Microelectronics Corp., et al.*, 18-CR-465-LHK (N.D. Cal. filed Sept. 27, 2018) (“Indictment”).

9 3. As set forth in the Indictment, dynamic random-access-memory (“DRAM”) is a memory
10 device product used in electronics to store information. DRAM stores each bit of data in a separate tiny
11 capacitor within an integrated circuit. DRAM is a technologically advanced commodity; it is widely used
12 in digital electronics where low-cost and high-capacity memory is required. DRAM is used in leading-
13 edge computing, consumer, networking, automotive, industrial, embedded, and mobile productions, and
14 is a product that is used or intended for use in interstate or foreign commerce.

15 4. Growth of the electronics industry in the People’s Republic of China (“PRC”) created
16 significant demand for memory products such as DRAM. The Central Government and State Council of
17 the PRC publicly identified the development of DRAM technology as a national economic priority
18 because PRC companies had not been able to develop technologically advanced DRAM production
19 capabilities, and PRC electronics manufacturers relied on producers outside the PRC to supply DRAM.
20 DRAM production technology was closely held by manufacturers in the United States, South Korea, and
21 Taiwan, including Micron Technology, Inc. (“Micron”), which had improved the technology through
22 intensive research and development over many years.

23 5. Aware of the PRC’s national priority and the barriers placed by non-PRC manufacturers,
24 including Micron, on access to the technology, Defendants UMC and Chen obtained DRAM trade secrets

1 belonging to Micron and conveyed information containing those trade secrets to Defendant Jinhua, a
 2 company controlled by the PRC government, without authorization from Micron.

3 **JURISDICTION AND VENUE**

4 6. This action arises under 18 U.S.C. § 1836(a), which permits the Attorney General to
 5 “obtain appropriate injunctive relief” against violations of 18 U.S.C. §§ 1831 and 1832. This Court has
 6 subject matter jurisdiction over this action under 18 U.S.C. § 1836(c), 28 U.S.C. § 1345, and 28 U.S.C.
 7 § 1331.

8 7. This Court may exercise personal jurisdiction over Defendants UMC, Jinhua, and Chen
 9 because each of the defendants committed an act in furtherance of the offenses in this District, as set forth
 10 below. In addition, UMC and Jinhua have purposefully availed themselves of the protections of U.S. law
 11 by applying for and obtaining U.S. patents containing the stolen trade secrets, as set forth below. UMC
 12 has also incorporated a wholly-owned subsidiary that it uses as its North American sales arm, UMC Group
 13 (USA), in California, with a principal place of business located in this District.

14 8. Venue is proper in the Northern District of California pursuant to 28 U.S.C. § 1391(b)(3),
 15 (c)(2), (c)(3), and (f)(3), and 18 U.S.C. §1837, because an act in furtherance of the offenses occurred in
 16 this District.

17 **INTRADISTRICT ASSIGNMENT**

18 9. The acts in furtherance of the offenses in this District occurred in Santa Clara County and
 19 Alameda County.

20 **THE PARTIES**

21 10. Plaintiff, the United States of America, acts pursuant to the authority in 18 U.S.C. § 1836
 22 to file a civil suit to obtain appropriate injunctive relief against violations of 18 U.S.C. §§ 1831 and 1832.

23 11. Defendant UMC is a semiconductor foundry company headquartered in Taiwan with
 24 global offices in Taiwan, China, Europe, Singapore, Japan, Korea, and the United States, including the

1 offices of its wholly-owned subsidiary, UMC Group (USA), in Sunnyvale, California. UMC Group
 2 (USA) is a California corporation with a principal place of business at 488 Deguigne Drive, Sunnyvale,
 3 California. In its SEC Form 20-F for fiscal year ended December 31, 2017, UMC stated that its “sales in
 4 North America are made through UMC Group (USA), our subsidiary located in Sunnyvale, California.”
 5 UMC is publicly listed and traded on the New York Stock Exchange. UMC did not, prior to the alleged
 6 theft of trade secrets set forth in this Complaint, possess advanced DRAM-related technology.
 7

8 12. Defendant Jinhua was established in early 2016 in the Fujian Province of China for the sole
 9 purpose of designing, developing, and manufacturing DRAM. Jinhua was created with US\$5.65 billion
 10 in funding provided by the PRC government and PRC government entities. Its two major shareholders
 11 were Electronics & Information Group Co., Ltd. and Jinjiang Energy Investment Co., Ltd., which were
 12 PRC state-owned enterprises.

13 13. Defendant Chen is a Taiwanese national and former General Manager and Chairman of
 14 Rexchip Electronics Corporation (“Rexchip”). Micron acquired Rexchip in or around 2013, and renamed
 15 it Micron Memory Taiwan Co., Ltd. (“MMT”). Chen became the President of MMT and Site Director of
 16 MMT’s Fabrication Facility 16, responsible for making Micron’s 25nm DRAM chip. Chen resigned from
 17 MMT in July 2015 and began working for UMC as its Senior Vice President and Fabrication Director in
 18 Taiwan in September 2015. In or around January 2016, Chen helped negotiate the terms of a technology
 19 cooperation agreement between UMC and Jinhua and became the Senior Vice President of UMC’s newly
 20 formed New Business Development (“NBD”) division, tasked with overseeing UMC’s F32nm DRAM
 21 development project and the technology cooperation agreement between UMC and Jinhua. In or around
 22 February 2017, Chen became the President of Jinhua in charge of its DRAM production facility.

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VIOLATIONS OF 18 U.S.C. §§ 1831 and 1832

2 As set forth in the Indictment and below:

3 **Violations of 18 U.S.C. § 1831(a)(5): Conspiracy to Commit Economic Espionage**

4 14. Beginning in or about January 2016, and continuing to present day, defendants UMC,
 5 Jinhua and Chen, along with others named as defendants in the Indictment, knowingly combined,
 6 conspired, and agreed to:

- 7 a. knowingly steal and without authorization appropriate, take, carry away, and conceal,
 8 and by fraud, artifice and deception obtain trade secrets belonging to Micron;
- 9 b. knowingly and without authorization copy, duplicate, sketch, draw, photograph,
 10 download, upload, alter, destroy, photocopy, replicate, transmit, deliver, send, mail,
 11 communicate, and convey trade secrets belonging to Micron; and
- 12 c. knowingly receive, buy, and possess trade secrets belonging to Micron, knowing the
 13 same to have been stolen, appropriated, obtained, and converted without
 14 authorization; intending and knowing that the offenses would benefit a foreign
 15 government, namely the PRC, and a foreign instrumentality, namely Jinhua,

16 in violation of Title 18, United States Code, Section 1831(a)(5).

17 15. In order to develop DRAM technology and production capabilities without investing
 18 years of research and development and the expenditure of many millions of dollars, UMC and
 19 Jinhua, a company entirely funded by the PRC government, and employees of both, conspired to
 20 circumvent Micron's restrictions on its proprietary technology and illegally obtain DRAM
 21 technology that had been developed by Micron, including Trade Secrets 1 through 8, discussed
 22 *infra* Paragraphs 33-40.

23 16. In or around early 2016, the PRC formed and funded Jinhua for the purpose of
 24 developing, designing, and mass-producing advanced DRAM technology. The PRC prioritized the
 25 development of integrated circuit devices, which included DRAM, in its 13th Five-Year Plan, a
 26 national plan that included objectives for China's economic priorities for the years 2016-2020,
 27 ratified by the National People's Congress, and which established the Chinese Communist Party's

1 vision for the country's future developments.

2 17. In or around January 2016, UMC entered into a technology cooperation agreement with
3 Jinhua to develop DRAM technology for a product that UMC referred to as the "32nm and 32Snm
4 DRAM" or "F32nm/F32Snm DRAM." Under the technology cooperation agreement, UMC would
5 provide the DRAM research and development, and Jinhua would provide the manufacturing and
6 fabrication facilities to mass produce DRAM. UMC and Jinhua were to jointly own the DRAM
7 technology and development. Under the terms of the agreement, Jinhua would provide US\$300 million
8 for purchasing necessary equipment for DRAM development and would pay US\$400 million to UMC
9 based on the progress of DRAM development. In or around April 2016, Taiwan's Ministry of
10 Economics approved the UMC and Jinhua technology cooperation agreement.

11 18. In the years leading up to the technology cooperation agreement, UMC did not have
12 advanced DRAM technology and had not been producing DRAM. UMC, however, had intentions to
13 take over DRAM business in China.

14 19. In September 2015, UMC hired Chen, who was previously the President of MMT and the
15 site director of MMT's Fabrication Facility 16 in charge of producing Micro's 25nm DRAM product, to
16 be the Senior Vice President of UMC. In January 2016, UMC established the NBD division for
17 developing DRAM technology to transfer to Jinhua and placed Chen in charge of the NBD division.

18 20. From in or around October 2015 through April 2016, Chen recruited and hired two MMT
19 employees to work for UMC and develop F32nm DRAM technology.

20 21. In or around November 2015, Chen hired a former MMT employee ("Employee 1") to
21 work for UMC. Prior to leaving MMT, Employee 1 stole confidential and proprietary materials
22 belonging to Micron, including trade secrets pertaining to the prior, current, and future generations of
23 Micron's DRAM technology, including the 80 (30nm), 90 (25nm), 100 (20nm), and 110 (1Xnm) series
24 DRAM. While working at UMC, Employee 1 referenced the stolen Micron materials to support UMC's
25 design of the F32nm DRAM technology for transfer to Jinhua pursuant to the two companies'
26 technology transfer agreement. Employee 1 stored the stolen Micron trade secrets, including Trade
27 Secrets 1, 6, 7, and 8, discussed *infra* Paragraphs 33-40, on one or more digital devices belonging to
28

1 UMC.

2 22. Between in or around December 2015 and April 2016, Employee 1, acting as an agent of
3 UMC, communicated with a current employee of MMT (“Employee 2”). Employee 2 provided
4 Employee 1 with confidential and proprietary Micron information to further UMC’s F32nm DRAM
5 technology design, including information related to Micron’s wafer specifications for its 25nm DRAM
6 chip.

7 23. On April 26, 2016, Employee 2 left MMT’s employment. Employee 2 told MMT that he
8 was leaving to work at his family business, and he signed the MMT Declaration of Resignation,
9 declaring and certifying that he did not keep any documents, confidential or otherwise, belonging to the
10 company, and that he destroyed any hard copy or electronic forms in his possession or control that were
11 stored on non-Micron property, including computers, phone, personal email, or file sharing accounts.
12 Employee 2 did not leave to work for his family business but rather immediately began working for
13 UMC.

14 24. In the weeks leading up to Employee 2’s resignation from MMT, he downloaded over
15 900 confidential and proprietary files belonging to Micron, including Trade Secrets 1-8, discussed *infra*
16 Paragraphs 33-40, by downloading the files from Micron servers and transferring them to USB external
17 storage devices or uploading the files to his personal Google Cloud account stored on servers in the
18 United States. Many of the files were marked “Micron Confidential,” “Micron Technology, Inc.,
19 Confidential and Proprietary,” or “Micron Confidential/Do Not Duplicate.” The created dates in the
20 Google files metadata showed that Employee 2 accessed Micron confidential and proprietary files both
21 before and after he left Micron employment, and while working at UMC.

22 25. In the weeks leading up to Employee 2’s resignation from MMT, Employee 2 ran
23 numerous deletion processes and a CCleaner program on his laptop computer to mask his theft of
24 Micron trade secrets. He also conducted numerous internet searches, accessing a number of publicly
25 available news articles about the PRC government’s support of the growth of the DRAM business in the
26 PRC, and specifically on UMC and Jinhua’s cooperation toward creating and producing DRAM.

27 26. While working at UMC, Employee 2 referenced Micron trade secrets to assist and further

1 UMC's development of its F32nm DRAM technology. In or around July or August 2016, Employee 2,
2 at the direction of a UMC employee, referenced Micron's Trade Secret 5 and provided critical design
3 rule data to that employee to further UMC's development of its F32nm DRAM technology, knowing
4 that UMC would transfer the technology to Jinhua. Employee 2 used his UMC-assigned laptop to
5 access his Google Drive, download a copy of Trade Secret 5, and reference the data contained therein to
6 assist UMC with its F32nm DRAM design rule. UMC employees were directed to use the information
7 Employee 2 provided to complete UMC's F32nm DRAM design rule. Trade Secret 5 and UMC's
8 F32nm DRAM design rule were stored in Employee 2's Google Drive, and a comparison of the two
9 show Micron's information being used in UMC's F32nm DRAM design rule document.

10 27. On October 23, 2016, Chen, UMC, Jinhua, and government officials from the PRC
11 attended a Jinhua/UMC recruiting fair in the Northern District of California to recruit employees from
12 the United States with semi-conductor experience to work for both companies in either the research and
13 development or sales and marketing division. Chen stated at the recruiting fair that UMC had
14 transferred its 25nm DRAM chip to Jinhua. On or about October 24, 2016, Chen and others from UMC
15 and Jinhua, including the mayors from the PRC cities of Jinjiang and Quanzhou, also visited
16 semiconductor equipment-manufacturing companies Applied Materials, Lam Research, and KLA
17 Tencor, all located in the Northern District of California, to facilitate its DRAM production process.
18 While at the recruiting fair and visiting the equipment-manufacturing companies in the Northern District
19 of California, Chen, UMC, and Jinhua had obtained and were in continuous control of the stolen Micron
20 trade secrets.

21 28. From in or around September 2016 through March 2017, UMC and Jinhua filed five
22 patents and a patent application concerning DRAM technology that contained information that was the
23 same or very similar to technology described in Micron's Trade Secrets 2 and 6. Employee 1 was listed
24 as an inventor in each of the five patents and the patent application. The patents were subsequently
25 jointly issued to UMC and Jinhua. The information contained in the patents and patent application
26 contained Micron trade secrets that could not be obtained through reverse engineering.

27 29. In February 2017, Taiwan law enforcement authorities executed search warrants and
28

1 seized items from UMC's offices and the residences of Employee 1 and 2. They found electronic and
 2 hard copy files containing Micron trade secrets in areas and on devices associated with UMC and
 3 belonging to Employee 1 and 2. Knowing that Taiwan law enforcement was on its way to execute
 4 search warrants at UMC, another UMC employee directed both Employee 1 and 2 to remove any
 5 electronic devices they possessed that contained Micron information on them. Some of the electronic
 6 devices that contained Micron information were turned over to Taiwan law enforcement. At least one
 7 electronic device that contained Micron information was not turned over to Taiwan law enforcement and
 8 had been concealed by UMC and Chen.

9 30. In or around February 2017, in addition to his position at UMC, Chen assumed the post
 10 of President of Jinhua.

11 Violations of 18 U.S.C. § 1832(a)(5): Conspiracy to Commit Theft of Trade Secrets

12 31. As set forth in Paragraphs 15-30, beginning in or about October 2015, and continuing to
 13 present day, defendants UMC, Jinhua and Chen, along with others named as defendants in the Indictment,
 14 knowingly combined, conspired, and agreed to:

- 15 a. knowingly steal and without authorization appropriate, take, carry away, and conceal,
 and by fraud, artifice and deception obtain trade secrets belonging to Micron;
- 16 b. knowingly and without authorization copy, duplicate, sketch, draw, photograph,
 download, upload, alter, destroy, photocopy, replicate, transmit, deliver, send, mail,
 communicate, and convey trade secrets belonging to Micron; and
- 17 c. knowingly receive, buy, and possess trade secrets belonging to Micron, knowing the
 same to have been stolen, appropriated, obtained, and converted without
 authorization; intending to convert a trade secret that is related to a product, namely
 DRAM, that is used in and intended for use in interstate and foreign commerce, to the
 economic benefit of someone other than Micron, and intending and knowing that the
 offense would injure Micron,

26 in violation of Title 18, United States Code, Section 1832(a)(5).

Violations of 18 U.S.C. §§ 1831(a)(3) - Economic Espionage (Receiving and Possessing Stolen Trade Secrets)

32. As set forth in Paragraphs 15-30, beginning in or about February 2016, and continuing to present day, defendants UMC, Jinhua and Chen, along with others named as defendants in the Indictment, intending and knowing that they would benefit a foreign government, foreign instrumentality, and foreign agent, knowingly received, bought, and possessed Trade Secrets 1 through 8, knowing them to have been stolen and appropriated, obtained, and converted without authorization, in violation of Title 18, United States Code, Section 1831(a)(3).

MICRON'S TRADE SECRETS

As set forth in the Indictment:

33. Micron is the only United States-based company that manufactures DRAM. Micron's headquarters are in Boise, Idaho, and it maintains a large office in the Northern District of California. Micron became a major participant in the global semiconductor industry with its purchase of Texas Instruments' DRAM memory business in 1998 and thereafter specialized in the advanced research and development and manufacturing of memory products including, but not limited to, DRAM. Micron provides approximately 20-25% of the world supply of DRAM.

34. The trade secrets identified below consisted of detailed, confidential information used to design and construct efficient manufacturing processes for advanced DRAM technology. The development of this information and its confidentiality provides Micron with a significant competitive advantage in the world market. This competitive advantage allows Micron to remain in business and continue to research and develop advanced DRAM for commercial and other uses.

35. MMT was one of Micron's fabrication plants in Taiwan that engaged in making DRAM. MMT assigned all intellectual property, including all trade secrets that it developed, to Micron.

36. Micron's DRAM technology included, but was not limited to, the following trade secrets, as defined in 18 U.S.C. § 1839(3):

a. **Trade Secret 1:** The Micron process to manufacture and produce DRAM contained in

1 the totality of information stolen by Employees 1 and 2 from Micron and provided to UMC and Jinhua
 2 under the direction of Chen and others. Trade Secret 1 included ways and means in which proprietary
 3 and non-proprietary components were compiled and combined by Micron to form substantial portions of
 4 the DRAM design and manufacturing process, including Trade Secrets 2 through 8, below.

5 b. **Trade Secret 2:** A 233-page PDF document identified with digital filename “FAB16 90s
 6 Traveler-20150518” (hereafter “25nm Process Traveler document”). The 25nm Process Traveler
 7 document contained comprehensive and very detailed information documenting the beginning-to-end
 8 manufacturing process for Micron’s 25nm DRAM product, including details of specifications and
 9 production processes.

10 c. **Trade Secret 3:** An Excel spreadsheet with multiple tabs identified with digital filename
 11 “(ALL) IMP conditions Table_20150318” (hereafter “Implant Conditions Table”). The Implant
 12 Conditions Table contained implant data required to make each of the various different transistor types
 13 required to make a 25nm DRAM product. Data in the Implant Conditions Table included very specific
 14 details of the relevant particular process code - which could be matched back to process descriptions in
 15 Trade Secret 2.

16 d. **Trade Secret 4:** An Excel spreadsheet with multiple tabs identified with digital filename
 17 “Implant Condition for MES setting_1015” (hereafter “Implant Conditions for MES document”). MES
 18 referred to a particular software used to track the 25nm DRAM product through the fabrication process,
 19 and the Implant Conditions for MES document was a tracking document that informed the software.
 20 The document inputted into the MES software enabled Micron to closely monitor and manage its 25nm
 21 DRAM fabrication process. The Implant Conditions for MES document provided critical details to
 22 manage the fabrication of the 25nm DRAM product through the fabrication process and provided
 23 information on the precision and outcome of each particular step.

24 e. **Trade Secret 5:** An Excel spreadsheet with multiple tabs identified with digital filename
 25 “[DR25nmS] Design rules Periphery_EES_2012000026-013_Rev.13” (hereafter “Design Rules
 26 document”). The Design Rules document contained detailed design specifications for the architecture of
 27 the 25nm DRAM product, including details on how to layer Micron’s 25nm DRAM product. The

1 Design Rules document included precise information on how to build distances between elements in a
 2 DRAM product to avoid electrical and physical interference. The Design Rules document included
 3 Micron trade secrets related to these types of specifications, which were critical information needed to
 4 build a 25nm DRAM product.

5 f. **Trade Secret 6:** A 302-page PDF document identified with digital filename
 6 “DRAM_100_series_(20nm)_traveler_(v00h) 150730” (hereafter “20nm Process Traveler document”).
 7 The 20nm Process Traveler document contained the specific types of details summarized in the 25nm
 8 Process Traveler document but for the next generation 20nm DRAM product. The 20nm Process
 9 Traveler document also contained details regarding Micron’s upgrade from the 25nm to the 20nm
 10 DRAM product and contained trade secret information pertinent to both generations of the product.

11 g. **Trade Secret 7:** A 360 page PDF identified with digital filename
 12 “dram_110_series_(1xnm)_traveler_(z11a)-20150915.pdf” (hereafter “1xnm Process Traveler
 13 document”). The 1xnm Process Traveler document contained the comprehensive and very detailed
 14 information documenting the beginning-to-end manufacturing process for Micron’s 1xnm DRAM
 15 product, including details of specifications and production processes. The 1xnm DRAM product was
 16 Micron’s most advanced DRAM at the time. The 1xnm Process Traveler document also contained
 17 details regarding Micron’s upgrade from the 20nm DRAM product to the 1xnm DRAM product and
 18 contained trade secret information pertinent to both generations of the product.

19 h. **Trade Secret 8:** A 260 page PDF identified with digital filename
 20 “dram_1xnm_process_(Z11AA41200)_-_summary_flow_document” (hereafter “1xm Process Summary
 21 Flow document”). The 1xnm Process Summary Flow document contained the manufacturing process of
 22 the 1xn DRAM chip as it flowed through the manufacturing facility. It compared the 1xnm process flow
 23 with prior generations of DRAM products. It described the evolution of the DRAM product to the 1xnm
 24 generation, explaining the purpose and reasons why certain changes and upgrades were made from one
 25 generation to the next.

26 37. Micron took reasonable measures to keep Trade Secrets 1 through 8 secret, including
 27 physical, electronic, legal, and policy measures.

38. The information contained in Trade Secrets 1 through 8 derived independent economic value, actual and potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who could obtain economic value from the disclosure or use of the information.

39. UMC did not, prior to the events alleged in this Complaint, possess advanced DRAM-related technology and did not produce DRAM. Beginning in 2016, UMC and Jinhua filed patent applications concerning DRAM technology that contain information that is the same or very similar to the misappropriated trade secrets – information that could not be obtained through reverse engineering. UMC and Jinhua could not have filed the patent applications, nor manufacture advanced DRAM, within this short time period except through exploitation of Micron’s stolen trade secrets.

40. The value of Trade Secrets 1 through 8, and each of them, to UMC and Jinhua, was at least \$400 million and up to \$8.75 billion, including expenses for research and design and other costs of reproducing the trade secrets that UMC and Jinhua avoided by the actions alleged in Paragraphs 15-30.

**FIRST CAUSE OF ACTION
18 U.S.C. § 1836(a)**

41. The United States incorporates by reference all paragraphs of this complaint set out above as if fully set forth.

42. Title 18, United States Code, Section 1836(a) empowers the Attorney General to obtain appropriate injunctive relief against any violation of 18 U.S.C. §§ 1831 or 1832.

43. As set forth above, Defendants violated 18 U.S.C. § 1831(a)(5) (conspiracy to commit economic espionage); 18 U.S.C. § 1832(a)(5) (conspiracy to commit theft of trade secrets); and 18 U.S.C. § 1831(a)(3) (Economic espionage – receipt and possession of stolen trade secrets).

44. The United States seeks permanent injunctive relief to prevent Defendants from using or conveying Micron's trade secrets. In particular, the United States seeks an order prohibiting Defendants from: (1) exporting, reexporting, causing the export of, attempting to export to the United States; selling or supplying, directly or indirectly to the United States; or causing the import into the United States of

1 any products containing DRAM manufactured by Jinhua or UMC; or conducting any transaction that
2 evades or avoids or has the purpose of evading or avoiding that prohibition; or (2) transferring or in any
3 way conveying Trade Secrets 1-8 to any other individual or entity.

4

5 **PRAYER FOR RELIEF**

6 WHEREFORE, the United States demands and prays that judgment be entered in its favor
7 against defendants through a Final Order that permanently enjoins Chen, UMC, Jinhua, and their agents,
8 servants, employees, attorneys, and all persons acting in concert or participation with them, from the
9 unauthorized acquisition, disclosure, use, duplication, or distribution of the Micron trade secrets,
10 including through a prohibition on: (1) exporting, reexporting, causing the export of, attempting to
11 export to the United States; selling or supplying, directly or indirectly to the United States; or causing
12 the import into the United States of any products containing DRAM manufactured by Jinhua or UMC;
13 or conducting any transaction that evades or avoids or has the purpose of evading or avoiding that
14 prohibition; or (2) transferring or in any way conveying Trade Secrets 1-8 to any other individual or
15 entity; and for all such further relief as may be just and proper.

16

17 Respectfully submitted,

18 ALEX G. TSE
19 United States Attorney

20 /s Kimberly Friday
21 KIMBERLY FRIDAY
22 Assistant United States Attorney

23 DATED: November 1, 2018
24
25
26
27
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Attorneys for the United States of America

U.S. COMPLAINT
FOR INJUNCTIVE RELIEF

The JS-CAND 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved in its original form by the Judicial Conference of the United States in September 1974, is required for the Clerk of Court to initiate the civil docket sheet. (SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)

I. (a) PLAINTIFFS

United States of America

(b) County of Residence of First Listed Plaintiff
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys (Firm Name, Address, and Telephone Number)

Assistant United States Attorney Kimberly Friday, U.S. Attorney's Office, Northern District of California, 450 Golden Gate Avenue, 11th Floor, San Francisco, CA 94103

DEFENDANTS

United Microelectronics Corporation; Fujian Jinhua Integrated Circuit, Co., Ltd.; Chen Zhengkun a.k.a. Stephen Chen

County of Residence of First Listed Defendant
(IN U.S. PLAINTIFF CASES ONLY) Hsinchu, Taiwan

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys (If Known)

II. BASIS OF JURISDICTION (Place an "X" in One Box Only)

- | | |
|---|---|
| <input checked="" type="checkbox"/> 1 U.S. Government Plaintiff | <input type="checkbox"/> 3 Federal Question
(U.S. Government Not a Party) |
| <input type="checkbox"/> 2 U.S. Government Defendant | <input type="checkbox"/> 4 Diversity
(Indicate Citizenship of Parties in Item III) |

III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)

	PTF	DEF	PTF	DEF
Citizen of This State	<input type="checkbox"/> 1	<input type="checkbox"/> 1	Incorporated or Principal Place of Business In This State	<input type="checkbox"/> 4
Citizen of Another State	<input type="checkbox"/> 2	<input type="checkbox"/> 2	Incorporated and Principal Place of Business In Another State	<input type="checkbox"/> 5
Citizen or Subject of a Foreign Country	<input type="checkbox"/> 3	<input type="checkbox"/> 3	Foreign Nation	<input type="checkbox"/> 6

IV. NATURE OF SUIT (Place an "X" in One Box Only)

CONTRACT	TORTS	FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
110 Insurance	PERSONAL INJURY	PERSONAL INJURY	625 Drug Related Seizure of Property 21 USC § 881	<input type="checkbox"/> 375 False Claims Act
120 Marine	310 Airplane	365 Personal Injury – Product Liability	690 Other	<input type="checkbox"/> 376 Qui Tam (31 USC § 3729(a))
130 Miller Act	315 Airplane Product Liability	367 Health Care/Pharmaceutical Personal Injury Product Liability	LABOR	<input type="checkbox"/> 400 State Reapportionment
140 Negotiable Instrument	320 Assault, Libel & Slander	330 Federal Employers' Liability	710 Fair Labor Standards Act	<input type="checkbox"/> 410 Antitrust
150 Recovery of Overpayment Of Veteran's Benefits	340 Marine	345 Marine Product Liability	720 Labor/Management Relations	<input type="checkbox"/> 430 Banks and Banking
151 Medicare Act	350 Motor Vehicle	355 Motor Vehicle Product Liability	740 Railway Labor Act	<input type="checkbox"/> 450 Commerce
152 Recovery of Defaulted Student Loans (Excludes Veterans)	355 Motor Vehicle Product Liability	370 Other Fraud	751 Family and Medical Leave Act	<input type="checkbox"/> 460 Deportation
153 Recovery of Overpayment of Veteran's Benefits	360 Other Personal Injury	371 Truth in Lending	790 Other Labor Litigation	<input type="checkbox"/> 470 Racketeer Influenced & Corrupt Organizations
160 Stockholders' Suits	362 Personal Injury -Medical Malpractice	380 Other Personal Property Damage	791 Employee Retirement Income Security Act	<input type="checkbox"/> 480 Consumer Credit
190 Other Contract		385 Property Damage Product Liability	SOCIAL SECURITY	<input type="checkbox"/> 490 Cable/Sat TV
195 Contract Product Liability	CIVIL RIGHTS		861 HIA (1395ff)	<input type="checkbox"/> 850 Securities/Commodities/ Exchange
196 Franchise	440 Other Civil Rights	HABEAS CORPUS	862 Black Lung (923)	<input checked="" type="checkbox"/> X 890 Other Statutory Actions
REAL PROPERTY	441 Voting	463 Alien Detainee	863 DIWC/DIWW (405(g))	<input type="checkbox"/> 891 Agricultural Acts
210 Land Condemnation	442 Employment	510 Motions to Vacate Sentence	864 SSID Title XVI	<input type="checkbox"/> 893 Environmental Matters
220 Foreclosure	443 Housing/ Accommodations	530 General	865 RSI (405(g))	<input type="checkbox"/> 895 Freedom of Information Act
230 Rent Lease & Ejectment	445 Amer. w/Disabilities– Employment	535 Death Penalty	FEDERAL TAX SUITS	<input type="checkbox"/> 896 Arbitration
240 Torts to Land	446 Amer. w/Disabilities–Other	OTHER	870 Taxes (U.S. Plaintiff or Defendant)	<input type="checkbox"/> 899 Administrative Procedure Act/Review or Appeal of Agency Decision
245 Tort Product Liability	448 Education	540 Mandamus & Other	871 IRS–Third Party 26 USC § 7609	<input type="checkbox"/> 950 Constitutionality of State Statutes
290 All Other Real Property		550 Civil Rights		
		555 Prison Condition		
		560 Civil Detainee– Conditions of Confinement		

V. ORIGIN (Place an "X" in One Box Only)

- | | | | | | | |
|---|---|--|---|--|--|---|
| <input checked="" type="checkbox"/> 1 Original Proceeding | <input type="checkbox"/> 2 Removed from State Court | <input type="checkbox"/> 3 Remanded from Appellate Court | <input type="checkbox"/> 4 Reinstated or Reopened | <input type="checkbox"/> 5 Transferred from Another District (specify) | <input type="checkbox"/> 6 Multidistrict Litigation–Transfer | <input type="checkbox"/> 8 Multidistrict Litigation–Direct File |
|---|---|--|---|--|--|---|

VI. CAUSE OF ACTION Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):
18 U.S.C. 1836(a)

Brief description of cause:

Complaint for injunctive relief

VII. REQUESTED IN COMPLAINT: CHECK IF THIS IS A CLASS ACTION
UNDER RULE 23, Fed. R. Civ. P.

DEMAND \$

CHECK YES only if demanded in complaint:
JURY DEMAND: Yes No**VIII. RELATED CASE(S), IF ANY** (See instructions):

JUDGE Hon. Maxine M. Chesney

DOCKET NUMBER CR 18-465-MMC

IX. DIVISIONAL ASSIGNMENT (Civil Local Rule 3-2)

(Place an "X" in One Box Only)

 SAN FRANCISCO/OAKLAND SAN JOSE EUREKA-MCKINLEYVILLE

DATE 11/01/2018

SIGNATURE OF ATTORNEY OF RECORD

/s/ Kimberly Friday